



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/828,893	04/20/2004	Ronald J. Yaeger	P-B199-CIP	5851
7590 Mr. Ronald J. Yaeger 4201 Tomberra Way Dallas, TX 75220				
01/12/2010				
EXAMINER				
COLE, ELIZABETH M				
ART UNIT		PAPER NUMBER		
1794				
MAIL DATE		DELIVERY MODE		
01/12/2010		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/828,893

Applicant(s)

YAEGER ET AL.

Examiner

Elizabeth M. Cole

Art Unit

1794

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 December 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 2, 4-16, 25, 26, 28 and 33-43 is/are pending in the application.
- 4a) Of the above claim(s) 3, 25, 26, 28, 33, 35 and 39-437 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 38 is/are allowed.
- 6) ☒ Claim(s) 1-2, 4-16, 34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

1. Claims 1-2, 4-17, 19-30 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification as originally filed does not provide support for the limitation that the continuous phase comprises amorphous polymers, or that the cationic polymers comprise at least one cationic functional group or wherein the continuous phase has an overall cationic charge. The specification does not state whether the polymers are amorphous, crystalline or semi crystalline, does not contain the negative limitation regarding non-chlorinated cationic polymers, does not refer to cationic functional groups or to the polymer being a cationic polymer. The specification does state that preferred polymers comprise cationic groups, (paragraph 061). The specification at paragraph 0060 states that the "the choice of polymers that are generally cationic in nature" is taught in order to repel positively charged ions and particles in the water. However, this is not the same as having a cationic charged or having cationic functional groups or an overall cationic charge.
2. Claims 1-2, 4-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
3. Claim 1 recites the limitation "the one or more amorphous cationic polymers" in
9. There is insufficient antecedent basis for this limitation in the claim. The amendment

of 12/18/09 deletes the term amorphous from line 8 but leaves it in line 9 and thus there is no antecedent basis for the recitation of the one or more amorphous cationic polymers.

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-2, 4-16 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Hosatte et al, U.S. Patent No. 6,228,506. Hosatte discloses a composite enthalpy exchanges which comprises a corrugated fibrous sheet which is impregnated with a cationic polymeric material. The cationic polymeric material may comprise polyacrylates. See col. 5, lines 19-30. The instant specification teaches that polyacrylates meet the claimed properties and solubility parameters, etc. The specification discloses these resins as having suitable non polar solubility parameter, the polar solubility parameter, the hydrogen bond solubility parameter, the surface tension, interfacial tension, (see for example the discussion at Table 3 regarding polyacrylates. Therefore, since Hosatte discloses the

same materials, it is reasonable to presume that the materials of Hosatte would meet the claimed property limitations. When the reference discloses all the limitations of a claim except a property or function, and the examiner cannot determine whether or not the reference inherently possesses properties which anticipate or render obvious the claimed invention but has basis for shifting the burden of proof to applicant as in *In re Fitzgerald*, 619 F.2d 67, 205 USPQ 594 (CCPA 1980). See MPEP §§ 2112- 2112.02. Since Hosatte et al discloses a fibrous material impregnated with the resins set forth in the specification, it is reasonable to expect that these resins have the same properties as the claimed resins.

7. The enthalpy exchanger of Hosatte et al is equated with the claimed evaporative cooler.

8. Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hosatte et al, U.S. Patent No. 6,228,506 in view of Herbst et al, U.S. Patent No. 6,585,989. Hosatte discloses a corrugated fibrous sheet which is impregnated with a polymeric material. Hosatte differs from the claimed invention because it does not disclose that the polymeric material is a blend of polyamideimide and polystyrene. Herbst discloses blends of polyamideimide and polystyrene which can be used to form air conditioning components such as films for use in ventilation systems, air cleaning and air conditioning systems. See col. 3, lines 41-48. Herbst teaches that the blend can be formed to produce films having high antimicrobial activity. Therefore, it would have been obvious to have employed the particular polymer blend of Herbst in the structure of Hosatte, in order to provide a film for use in air conditioning and ventilation systems

which had a high degree of antimicrobial activity. With regard to the particular amounts of the polyamideimide and polystyrene, it would have been obvious to have optimized the amounts of the components used through the process of routine experimentation in order to arrive at a material having the desired properties. It is noted that support for the limitations of claim 33 are not found in parent application 09/426,228 filed 10/22/99 and thus Herbst is applicable as prior art.

9. Claim 38 is allowed.

10. Applicant's arguments filed 12/18/09 have been fully considered but they are not persuasive. Applicant argues that since polymers can be amorphous or crystalline that a specification which is silent as to whether the particular polymers employed are amorphous or crystalline can be relied on to provide support for an amendment to the claims limiting the polymer to an amorphous material. This argument is not persuasive. The fact that a particular material may have various different characteristics does not provide sufficient support for specifically reciting that the material has that particular characteristic. A fiber can have many lengths, but a specification which was silent as to fiber length could not then be relied on for support for a claim recitation of a particular length. The specification does not set forth the invention to convey to one skilled in the art that the particular polymer claimed was an amorphous polymer. Applicant argues that the person of skill in the art would know that polymers can be amorphous, semi-crystalline or crystalline. However, the issue is not whether thermoplastic polymers would be known to the person of skill in the art as being one of amorphous, semi-crystalline or crystalline. The issue is whether the specification reasonably conveys to

the person skilled in the art that the continuous phase consists essentially of an amorphous cationic polymer. There is nothing on the record which shows that it does.

11. If Applicant contends that the discussion in the specification of particular parameters such as solubility parameters, etc. would establish that the polymers disclosed are amorphous to a person of skill in the art, Applicant needs to set forth why this is the case from scientific reasons, citations to pertinent data, etc.

12. Applicant's citation regarding thermoplastic polymers in general does not establish that in particular the person of skill in the art would have recognized the polymers set forth in the specification as amorphous rather than semi crystalline or crystalline. Therefore, the rejection is maintained.

13. Applicant's arguments that the specification provides support for overall cationic charge are not persuasive. The specification provides support for positively charged groups and polymers but not for the limitation for the overall cationic charge. The citation to the IUPAC Compendium provided by Applicant states that a cationic polymer is a polymer composed of positively charged macromolecules and equivalent amount of counter anions. That does not indicate that the overall charge would be positive. The citation provided refers to a material having an overall positive charge as a polyelectrolyte. The specification does not disclose polyelectrolytes. The specification discusses at paragraph 0060 of the published application that the polymers can be generally cationic in nature. The specification does not disclose an overall cationic charge. Therefore, the rejection is maintained.

14. Applicant's amendments are sufficient to overcome the art rejections previously set forth. New rejections are set forth above.
15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

- 16.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth M. Cole whose telephone number is (571) 272-1475. The examiner may be reached between 6:30 AM and 6:00 PM Monday through Wednesday, and 6:30 AM and 2 PM on Thursday.

The examiner's supervisor Rena Dye may be reached at (571) 272-3186.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status

Art Unit: 1794

information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

The fax number for all official faxes is (571) 273-8300.

/Elizabeth M. Cole/
Primary Examiner, Art Unit 1794

e.m.c